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Mrs. Graf

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Mr. McCrory left Washington on August 22, first stopping at Chicago and Milwaukee. He inspected the Seney Marsh migratory waterfowl project, Bureau of Biological Survey, near Germfask, Mich., in company with C.W. Okey and F. G. Myrick. At Saint Paul he conferred with D. G. Miller, E.V. Willard, and others with regard to the work in Minnesota. He inspected all of the migratory waterfowl projects that are under construction in North and South Dakota and Montana, and made preliminary examinations of the Red Rock Lakes in western Montana and the Malheur project in Oregon. At Corvallis, Oreg., he conferred with M. R. Lewis, R. S. Besse vice director of the Agricultural Experiment Station, F. E. Price acting head of the Agricultural Engineering Department, and others regarding the cooperative irrigation work, and he inspected the pear irrigation experiments at Medford, Oreg. He went over the work at the Berkeley office, and also inspected Spaulding Ranch, a migratory waterfowl project. He visited S. W. McBirney of this Bureau and Roy Bainer, acting head of the Agricultural Engineering Department at Davis. He inspected the work of the Bureau in the vicinity of Los Angeles and Pomona, looked over the Salton Sea migratory waterfowl project, and visited the Experiment Station at Bard, Calif. He conferred with D. A. Isler in Texas concerning the pink-bollworm control work, and stopped for conference with the officials of the Department of Conservation of the State of Indiana at Indianapolis.

Mr. W. W. McLaughlin accompanied Mr. McCrory on a trip of inspection of the migratory bird refuges in the vicinity of Minot, N. Dak., and the cooperative irrigation investigations at Scottsbluff, Nebr. Mr. McLaughlin then proceeded to Washington, D. C.

At the sessions of the Oregon Reclamation Congress held at Corvallis on August 19 and 20 Mr. McLaughlin gave an informal talk on the snow survey work being carried on by the Division of Irrigation. Fred C. Scobey gave an illustrated talk on hydraulic phenomena.

A report entitled "Utilization of the Waters of Mojave River, Calif.," by Harry F. Blaney and Paul A. Ewing, was completed and mimeographed. The survey reported, made on request to the Secretary of Agriculture by 25 southern California municipalities and water companies, involved, besides examination of the use of waters in Mojave Valley itself, the consideration of a proposed transmountain diversion from the Mojave watershed to the Santa Ana basin, the plan being to provide reservoir storage for a portion of the headwaters and transport it to the other side of the mountains by tunnels. In both valleys irrigation is made possible largely by pumping from wells, but while the lifts in Mojave Valley are low, those in

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Santa Ana basin have become very high. The problem as to how the present beneficial use of water in Mojave basin may be protected while the surplus above such use is being made available for other use there or elsewhere is complicated by the peculiarities of the river bed, the Mojave being known as an "upside down" river because most of its flow is underground and of widely varying seasonal amount. The authors' conclusion was that the amount proposed for diversion could be made available only by a considerable reduction in the non-agricultural use, if present beneficial use were not to be reduced.

Plans for the proposed addition to the hydraulic laboratory at Fort Collins, Colo.; as a W.P.A. project, were reviewed by R. L. Parshall. These plans, involving an expenditure of \$18,000, have been approved by State officials and submitted to Washington for further consideration.

A trip through the mountainous area of Colorado was made by Geo. D. Clyde and R. L. Parshall for the purpose of laying out courses to be used in connection with the project "Snow Surveys and Streamflow Forecasting." About 30 courses were set in various localities 12 of which were located on the Colorado River watershed. Others were on the Poudre, Big Thompson, South Boulder, Clear Creek, South Platte, and Arkansas rivers. These several locations on the various watersheds will not be sufficient to meet ultimately the requirements of the problem of forecasting stream flow, but will serve as a skeleton network from which fill-in courses will have to be established later as the demand arises. For the most part the snow courses were laid out near winter highways or railroads and they are fairly accessible. Measurements will be made under the direction of forest rangers.

A paper on "The Relation of Soil Moisture to Pear Tree Wilting in a Heavy Clay Soil" was prepared by R. A. Work and M. R. Lewis. The article, which is intended for publication in the Journal of the American Society of Agronomy, is based on experiments conducted at the Medford, Oregon, experiment station, by the Division of Irrigation, the Soils Department of the Oregon Agricultural Experiment Station, and the U. S. Bureau of Plant Industry.

Fred C. Scobey began an extended trip through the Western States for the purpose of gathering data for the revision of his bulletin on "Flow of Water in Irrigation Channels."

L. A. Jones visited Atlanta, Ga. on September 16 to confer with the regional forester at that point relative to the CCC drainage camps located in Louisiana. Five out of the six camps assigned to Louisiana are now in operation.

Thirty-five out of the 36 camps in the North Central States are now in operation. J. G. Sutton, who has charge of the camps in that area was in Washington recently for a conference regarding the work and moved his family to Milwaukee, Wis. where the district office has been established. George Burnet has been appointed inspector for the CCC camps at Ft. Dodge, Iowa, and will supervise the camps in Iowa and Northern Illinois.

Notice has been received from the War Department that men for the camps at Galesville and Vienna, Ind., and Georgetown, Del. will arrive about October 1.

Professor R. W. Carpenter of the University of Maryland has been employed temporarily as inspector for the C.C.C. drainage camps in Maryland and Delaware.

B. S. Clayton has made a preliminary examination and report on drainage conditions in the marl area near Homestead, Fla. The ground water table in the region has lowered materially during recent years and the local residents were of the opinion that the condition could be improved by installing a number of gates in the canals draining the lower end of the Everglades. Mr. Clayton found that all of the ditches cut into a very porous layer underlying the region and that it is very doubtful that water could be held in the ditches long enough to materially affect the ground water table. He suggested that an experiment be conducted enclosing 20 to 40 acres by low dykes and flooding the area thus enclosed by pumping from the ditches.

In September R. B. Gray visited the Toledo office, discussing matters pertaining to the corn borer and minor pest control projects. A number of excellent movies prepared by the Toledo office dealing with pest control measures were viewed. Mr. Gray then conferred with the International Harvester Co. officials at Chicago concerning machinery developments. He was in Ames on September 12 where he discussed matters in connection with the corn production project.

On September 10, 312 beet growers and sugar company representatives from Nebraska, Wyoming, and Colorado attended the Sugar Beet Field Day at Fort Collins, Colo. cooperatively sponsored by Dr. H. E. Brewbaker of the Bureau of Plant Industry and E. M. Mervine, Bureau of Agricultural Engineering, and the State Agricultural Experiment Station. Results of sugar beet experimental tests and developments of machinery were shown in the field.

S. W. McBirney reports that the California tests of the Urschel-Scott-Viner sugar-beet harvester were completed and the machine moved to Colorado for further tests. The work of the harvester was so satisfactory that some of the sugar company representatives are desirous of seeing several machines built by next year so that they may purchase a few for commercial harvesting in California.

Recently E. M. Dieffenbach attended a meeting of tomato plant growers at Tifton, Ga., in order to hear of their spraying problems. The growth of the tomato plant industry has been very rapid in Georgia during the past few years, and over 5,500 acres of plants were certified the past season. These plants were shipped into the various northern tomato growing States.

According to D. A. Isler, \$4,900 has been allotted under the Emergency Relief Administration for construction of a screened insectary to cover approximately one-half of an acre for use in pink bollworm cultural control studies at Presidio, Texas. Plans for construction of the cage have been drawn and submitted for approval.

A report of the work on seed treaters and fungicide feeders conducted in cooperation with the Bureau of Plant Industry is being prepared by F. D. Fulton. Several fungicide dust feeders and an automatic grain weighing device, which also feeds the desired quantity of dust, were developed.

W. M. Hurst and W. R. Humphries are revising Farmers' Bulletin No. 1608 "The Operation and Care of the Combined Harvester-Thresher," They are also preparing for field work in harvesting soybeans with small combines. The project dealing with small combines is being conducted in cooperation with the agricultural engineering departments of the University of Illinois, Purdue University, and the Mississippi Agricultural Experiment Station.

A small experimental forage dryer is being built at Jeanerette, La., under the supervision of E. D. Gordon, the main element of which is a ribbon scroll which moves the material being dried toward the discharge end. Although this principle is not new it has not been tried in the drying of forage. The hot furnace gases and green forage enter at one end and a fan attached at the opposite end draws the hot drying gases through the dryer.

Officials of Deere and Company at Moline and of the International Harvester Company at Chicago were interviewed by G. A. Cumings regarding recent developments of planters and fertilizer distributors. These companies are closely following the research work of the Bureau and using the findings as a basis for machine developments. Deere and Company have practically completed the design of a tractor cotton-planting attachment which has a number of special features. The fertilizer is placed in a band to one side of the row, the cotton seed are planted at a variable depth, and the units are flexible. This attachment will be placed on the market for the 1936 season. Two-, four- and six-row hill-drop sugar beet planters have been built with which the fertilizer may be placed either in the furrow with the seed or at each side of the row on a level with the seed. The International Harvester Co. reports a satisfactory demand in the Southeast for tractor cotton-planting attachments with which fertilizer may be placed at one side of the row.

Mr. Cumings also inspected a number of cooperative cotton experiments pertaining to fertilizer placement in the Southwestern States. The experimental results were in accord with previous findings: On the heavier soils of the Southwest, increase in cotton yields from the use of fertilizer are small, and in general the side placement of the fertilizer is most effective.

L. G. Schoenleber and W. H. Redit were at Norfolk, Va. Sept. 13 and 14 for planting operations in connection with a fertilizer placement study with spinach. A multiple-row drill with a special fertilizer attachment was used in this work. For accurate placement of fertilizer the 5-foot beds on which the spinach is usually planted, must be of uniform height and shape. Observations were made on a similar experiment with kale planted the first part of August. It was noted that practically no kale plants appeared above ground when the fertilizer was placed either two or three inches under the seed at time of planting.

R. M. Merrill and O. K. Hedden visited vineyards at Vermilion, Ohio, August 26 to confer with Mr. Runner of the Bureau of Entomology and Plant Quarantine regarding experimental spraying for grape insects.

Messrs. Dudley and Bronson of the Bureau of Entomology and Plant Quarantine, stationed at Madison, Wis. visited the Toledo, Ohio, office to confer on methods of control of pea aphids and to examine experimental spraying equipment which is being developed at the Toledo shop.

Wallace Ashby spent a week at Presque Isle, Me. with A. D. Edgar inspecting the potato storage project and planning the work for the ensuing year.